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Implementation of the proposals for action of the Intergovernmental Panel on Forests/Intergovernmental Forum on Forests and the plan of action of the United Nations Forum on Forests

Criteria and indicators of sustainable forest management

Report of the Secretary-General

Summary

Criteria and indicators for sustainable forest management are recognized as an important framework for assessing the state of and trends in forest resources and forest management and to build a common understanding of what constitutes sustainable forest management. Important advances in the development and application of criteria and indicators have been made over the past several years. Currently, 149 countries participate in one or more of nine regional or international criteria and indicators processes. All the processes have identified sets of criteria and indicators for use at the national level, and some have developed sets at the subnational level. International organizations, including several members of the Collaborative Partnership on Forests, have been instrumental in providing support to the development of these processes and in assisting countries in testing and implementing criteria and indicators at the national and subnational levels. Many countries have used criteria and indicators as a framework for strategic planning, monitoring sustainable forest management and national forest programmes, developing certification schemes, and catalysing cross-sectoral coordination and stakeholder participation. Use of criteria and indicators for monitoring sustainable forest management at the regional or eco-regional level has made significant progress in some criteria and indicators processes. The full realization of the potential of

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criteria and indicators as tools for sustainable forest management is constrained in many countries, especially developing countries and countries with economies in transition, by insufficient political support, financial resources, and institutional and technical capacity. Continued and increased political, financial and technical support is needed to overcome these constraints. Collaboration and common approaches to data collection and definitions among criteria and indicators processes and by global instruments that use forest-related indicators and the global Forest Resources Assessment could further the use of criteria and indicators for sustainable forest management at the regional and global levels, streamline reporting and increase consistency of data.

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I. Introduction

1. The United Nations Forum on Forests identified the topic "criteria and indicators of sustainable forest management" as one of the Forum elements. The Forum's multi-year programme of work calls for the review of the implementation of the proposals for action of the Intergovernmental Panel on Forests (IPF) and the Intergovernmental Forum on Forests (IFF) related to this topic at the fourth session.[1] The present report assesses progress in the implementation of the related IPF/IFF proposals for action, discusses the means of implementation (finance, transfer of environmentally sound technologies and capacity-building) and common items[2] relevant to the topic, and highlights emerging issues that merit the attention of the United Nations Forum on Forests.

2. The draft report was provided by the Food and Agriculture Organization of the United Nations (FAO) and the International Tropical Timber Organization (ITTO). Sources of information used to prepare the report include the national reports submitted to the United Nations Forum on Forests for its fourth session that were available at the time of preparation, results of country- and organization-led initiatives and other meetings, and inputs from other members of the Collaborative Partnership on Forests and from regional and international criteria and indicators processes.

II. Background

3. The development of criteria and indicators for sustainable forest management represents a major international effort to contribute to the internationally agreed goal of the management, conservation and sustainable development of all types of forests, as articulated in the "Forest Principles" and chapter 11 of Agenda 21 (on forests) of the United Nations Conference on Environment and Development. Agenda 21 called for the formulation of scientifically sound criteria and guidelines to help to achieve that goal.

4. Criteria may be defined as the essential elements of sustainable forest management. Criteria contain the major components of sustainable forest management and reflect the present-day objectives and expectations of society towards sustainable forest management. Indicators are qualitative or quantitative parameters of a criterion, which provide a basis for assessing the status of, and trends in, forests and forest management.

5. IPF and IFF recognized criteria and indicators as important tools to help achieve sustainable forest management. IPF and IFF were informed by, among other things, the regional and international criteria and indicators processes under way at the time and the Intergovernmental Seminar on Criteria and Indicators for Sustainable Forest Management, which was held in August 1996 in Helsinki.

6. IPF recognized criteria and indicators as a policy tool providing a conceptual framework for the formulation, implementation, monitoring and evaluation of national forest programmes or related policy frameworks. IFF focused more on criteria and indicators as a tool for monitoring and reporting national trends in the state of, and trends in, all types of forests, and for assessing progress towards sustainable forest management. Table 1 lists the IPF/IFF proposals for action related to criteria and indicators. The summaries of action called for are neither negotiated

text nor are they meant to replace negotiated text; they are provided to facilitate the analysis of the implementation of the IPF/IFF proposals for action.

Table 1
Summary of IPF/IFF proposals for action related to criteria and indicators of sustainable forest management

Type of action called for	*Proposals for action: IPF in E/CN.17/1997/12 IFF in E/CN.17/2000/14*
Develop, test and implement criteria and indicators at the national, subnational and operational levels: encouraged countries, with the support of international organizations, as appropriate, to develop, field test and promote the use of criteria and indicators for sustainable forest management, including by integrating them into national forest programmes and assessments and using them to monitor trends and promote best forest management practices.	IPF: paras. 17 (d), 89 (a), 115 (a)-(c) IFF: para. 17 (d)
Promote the regional and international development and use of criteria and indicators: urged countries, international organizations and international and regional initiatives to work to achieve a common international understanding of concepts, terms and definitions related to criteria and indicators of sustainable forest management, mutual recognition among sets of criteria and indicators, and methods for the measurement of indicators and the collection and dissemination of data.	IPF: para. 115 (d)
Promote consistency and complementarity between the work on biological indicators of the Convention on Biological Diversity and existing criteria and indicators initiatives: requested the Conference of the Parties to the Convention on Biological Diversity to take note of existing criteria and indicators initiatives and ensure that its work on biodiversity indicators would be consistent with and complementary to them.	IPF: para. 115 (f)
Provide technical and financial assistance (means of implementation): urged donor countries and multilateral and international organizations to provide technical and financial assistance to developing countries and countries with economies in transition for further development, field testing and implementation of criteria and indicators at the national, subnational and forest management unit/operational levels.	IPF: para. 115 (c)
Participation (common item): encouraged countries to formulate and implement criteria and indicators with the full participation of all interested parties.	IPF: para. 115 (a) and (b)

7. Two recent international meetings on criteria and indicators of sustainable forest management provide important input for consideration by the United Nations Forum on Forests at the current session: the International Conference on the Contribution of Criteria and Indicators for Sustainable Forest Management, held in Guatemala City from 3 to 7 February 2003,[3] and the Expert Consultation on Criteria and Indicators for Sustainable Forest Management, held in Cebu City, the Philippines, from 2 to 4 March 2004.[4] The latter was organized by FAO and ITTO and hosted by the Forest Management Bureau, Department of Environment and Natural Resources, the Philippines, in response to a recommendation of the 2003 Conference on the Contribution of Criteria and Indicators to inform the United Nations Forum on Forests regarding: improving common understanding of concepts, terms and definitions related to criteria and indicators; identifying common approaches, methods and protocols for collecting, storing and sharing data; strengthening criteria and indicator processes and inter-process cooperation; and developing mechanisms to improve inter-process communication and address technical issues related to criteria and indicators. The present report draws extensively on the background information, conclusions and recommendations of that Conference. As the present report was completed before the Expert Consultation in the Philippines was convened, it does not refer to the outcome of the meeting. The reports of the two meetings provide useful background information.

8. Two related issues will be discussed at the fourth session: (a) progress in implementation of the IPF/IFF proposals for action related to monitoring, assessment and reporting, concepts, terminology and definitions; and (b) the outcome of the Ad Hoc Expert Group on Approaches and Mechanisms for Monitoring, Assessment and Reporting, which met at Geneva from 8 to 12 December 2003 (see E/CN.18/2004/2). The former item will focus on monitoring, assessment and reporting on forests, including collecting data on indicators, but will not address criteria and indicators processes per se, as that is covered in the present report. The latter item will concentrate on the United Nations Forum on Forests function to monitor and assess progress in implementing the IPF/IFF proposals for action, and towards sustainable forest management, including through the use of criteria and indicators.

III. Implementation of the proposals for action of the Intergovernmental Panel on Forests and the Intergovernmental Forum on Forests related to criteria and indicators of sustainable forest management

A. Progress in implementation of the proposals for action

9. Over the past decade, criteria and indicators processes, operating at different levels but catalysed in large part by initiatives at the regional and international levels,[5] have facilitated the implementation of IPF/IFF proposals for action related to criteria and indicators for sustainable forest management. In the early 1990s, ITTO pioneered the development of criteria and indicators for sustainable management of natural tropical forests. Since then, eight other criteria and indicators processes have been launched (see table 2). A total of 149 countries, representing about 85 per cent of the world's forests, are now participating in one or more of

these nine processes. The processes have stimulated the development and implementation of criteria and indicators at the national, subnational and operational levels and have made possible the use of criteria and indicators at the regional and global levels.

Table 2
Regional and international criteria and indicators processes

Initiative/process	*Date launched*	*Number of countries involved*	*Region (vegetation zone/geographic area)*
Ministerial Conference on the Protection of Forests in Europe (Pan-European Process)	1994	44[a]	European boreal and temperate forests (includes the portion of Russia's forests located in Asia)
Montreal Process	1995	12[b]	Mainly temperate and boreal forests in North and South America, Asia and Oceania
ITTO	1992	32[c]	Tropical natural forests
Tarapoto Proposal	1995	8[d]	Amazon Basin
African Timber Organization	1996	14[e]	Tropical forests of Africa
Dry-Zone Africa Process	1995	30[f]	Sub-Saharan Africa
Near East Process	1996	30[g]	Near East
Dry Forest Asia Initiative	1999	9[h]	South Asia and Mongolia, China, Myanmar, Thailand
Lepaterique Process	1997	7[i]	Central America
Total number of countries involved		**149**	

Source: Based on Simula, M., "Criteria and Indicators for Sustainable Forest Management: Overview of Progress and Issues", in: International Conference on the Contribution of Criteria and Indicators for Sustainable Forest Management, volume 2 (see: www.fao.org/DOCREP/005/J077E/J077E00.HTM), with input from the Ministerial Conference on the Protection of Forests in Europe secretariat:

(a) In addition, the European Community is a member. Russia is also under the Montreal Process and Turkey is also under the Near East Process.

(b) China is also under the Dry Forest Asia Initiative.

(c) Comprised of all ITTO producing member countries, which are located in the tropical areas of several regions: Africa, Asia, North and Central America, Oceania and South America. (The total number of ITTO members is 58.)

(d) All countries are also ITTO producing member countries.

(e) In the African Timber Organization process, 10 countries are ITTO producing member countries and 3 countries belong to the Dry-Zone Africa process: Angola (Dry-Zone Africa), Cameroon (ITTO), Central African Republic (ITTO), Congo (ITTO), Côte d'Ivoire (ITTO), the Democratic Republic of the Congo (ITTO and Dry-Zone Africa), Equatorial

Guinea, Gabon (ITTO), Ghana (ITTO), Liberia (ITTO), Nigeria (ITTO), Sao Tome and Principe, the United Republic of Tanzania (Dry-Zone Africa) and Togo (ITTO).

(f) Four countries also belong to the Near East process.

(g) Four countries are also Dry-Zone Africa process members (Djibouti, Mauritania, Somalia and Sudan) and one is a member of the Ministerial Conference on the Protection of Forests in Europe.

(h) Three are also ITTO producing members (India, Myanmar and Thailand) and China is also a member of the Montreal Process.

(i) Three countries are also ITTO producing member countries (Guatemala, Honduras and Panama).

1. Status of implementation

Develop, test and implement criteria and indicators at the national, subnational and operational levels

10. All the regional and international processes have developed a set of criteria and indicators for application at the national level. Three of the nine processes — African Timber Organization, ITTO and Tarapoto — have produced sets of criteria and indicators to be applied at the forest management unit level. In addition, the Ministerial Conference on the Protection of Forests in Europe has developed "Pan-European Operational Level Guidelines for Sustainable Forest Management", which follow the structure of the six pan-European criteria and form a common framework of recommendations that can be used on a voluntary basis and as a complement to national and/or regional instruments to further promote sustainable forest management at the field level. All these sets have stimulated the application of criteria and indicators in countries.

11. Many countries (most notably in Latin America, North America, Europe and South-East Asia) have used a set of criteria and indicators developed by a regional or international process to help orient decision-making and policy development in their forest sector. Some countries have used a regional set as the basis for developing their own national set of criteria and indicators. As of 2003, 23 countries had developed national or subnational criteria and indicators, and another 16 countries were in the process of doing so.

12. Countries have used criteria and indicators for a range of purposes. They are used as a framework for developing and assessing the effectiveness of national forest programmes or related policy processes, monitoring progress towards sustainable forest management, developing certification standards, communicating progress to policy makers and the public, and engaging stakeholders in forest-related activities, among other things. Criteria and indicators contribute to the formulation and implementation of national and subnational forest programmes and help monitor the outcomes of environmental policies and legislation. They have helped identify information gaps and set the stage for decisive action on the conservation and sustainable management of forests. Box 1 provides some examples of the application of criteria and indicators for sustainable forest management in various countries.

Box 1.

Examples of how criteria and indicators are used in national forest policy processes and for other applications in various countries

Malaysia coordinates and implements criteria and indicators at the national and forest management unit levels through a National Committee on Sustainable Forest Management established in 1994 by the Ministry of Primary Industries. Malaysia's criteria and indicators are based on the set developed by ITTO. Criteria and indicators have enabled improved multi-stakeholder dialogues with interested parties and reporting on progress towards sustainability. Malaysia has used its criteria and indicators to launch its Timber Certification Scheme. It is also leading the effort to develop a Pan Asian Timber Certification Scheme based on the ASEAN Regional Criteria and Indicators for Sustainable Management of Natural Tropical Forests, which are based on ITTO criteria and indicators.

Canada, as a member of the Montreal Process, uses its national criteria and indicators as the framework to clarify the meaning of sustainable forest management; monitor, assess and report on progress at the national level; provide relevant information to the public and policy makers; and provide a reference point for the development of forestry policies.

India relies on criteria and indicators as a tool for strengthening institutional capacities at the national and local levels, to facilitate the exchange of information between stakeholders and to improve multi-stakeholder participation in sustainable forest management.

The new forestry law of *Honduras* states that criteria and indicators are to be the framework to monitor, assess and report on progress towards sustainable forest management for the country's national forest programme. Honduras has derived criteria and indicators at the forest management unit level from the national ones.

The forest policy and strategy of *Finland* are articulated in its National Forest Programme 2010 and regional forest programmes. Criteria and indicators influenced the formulation and updating of the National Forest Programme and are seen as a means to monitor its implementation. Some of the indicators of sustainable forest management have also been adopted as indicators for monitoring implementation of the national strategy for natural resource management. The criteria and indicator process has also influenced the recent updating of national guidelines for forest management practices at the forest management unit level.

The *United Kingdom* in 2002 developed and published the United Kingdom Indicators of Sustainable Forestry, which are linked to the United Kingdom Forestry Standard and the criteria and indicators of Ministerial Conference on the Protection of Forests in Europe. The set of indicators were developed through two rounds of wide consultation. They allow for both a comprehensive overview of the forest sector in the United Kingdom as well as flexibility to accommodate the

concerns of the countries that make up the United Kingdom and the devolved administration of the sector. The indicators together provide a comparable overview by giving information for England, Scotland, Wales and Northern Ireland, which can be supplemented by indicators linked to the special objectives and actions in each country's Forestry Strategy.

Sources: Reports of criteria and indicator processes, the report of the 2003 Conference on the Contribution of Criteria and Indicators, and national reports to the Forum at its fourth session.

Promote regional and international development and use of criteria and indicators for sustainable forest management

13. The degree that criteria and indicators are used at the regional and eco-regional levels varies from process to process. Significant progress has been made under some processes to use criteria and indicators as a monitoring and assessment tool. The Ministerial Conference on the Protection of Forests in Europe, Montreal and ITTO processes, involving more than 80 countries, are at the stage of reporting on the status and trends in sustainable forest management using country information. The Ministerial Conference on the Protection of Forests in Europe report entitled *State of Europe's Forests Protection*, which was endorsed at the fourth Ministerial Conference (Vienna, 2003), provides information on sustainable forest management in Europe. The report is structured according to the six pan-European criteria for sustainable forest management and provides data and information on all pan-European indicators for sustainable forest management. The *Montreal Process First Forest Overview Report 2003* which was released in September 2003, includes a subset of seven indicators on which all member countries reported. In 2004, ITTO will publish its first report on the status of tropical forest management in ITTO producer countries, based largely on country reports on the ITTO criteria and indicators.

14. Other criteria and indicators processes are at an earlier stage of implementation. In these, the focus to date has been on identifying, verifying and, in some cases, revising the regional set of criteria and indicators. They have not reported on the status and trends in sustainable forest management using information provided by countries.

15. Despite the potential benefits, the exchange of knowledge and sharing of information, experiences and lessons among and within processes is still limited. Several processes, including the Near East, Dry-Zone Africa, Dry Forests in Asia and Lepaterique processes, do not meet on a regular basis and dialogue within these processes tends to be sporadic. In general, sharing of information between processes is also relatively limited, although international meetings, such as the Intergovernmental Seminar on Criteria and Indicators for Sustainable Forest Management, the 2003 Conference on the Contribution of Criteria and Indicators and the 2004 Expert Consultation, have provided opportunities for some inter-process interaction, and some processes (e.g., Ministerial Conference on the Protection of Forests in Europe and Montreal) have shared their information and documents and included other processes in their meetings. Consideration should be

given to more regular interaction between processes, including at a technical working level.

16. One of the objectives of the 2003 Conference on the Contribution of Criteria and Indicators and Intergovernmental Seminar on Criteria and Indicators was to consider the feasibility and potential benefits of harmonization among criteria and indicators processes. While the processes differ in content and degree of implementation, they are conceptually similar in their objectives and approaches and share comparable criteria. Over time, convergence or mutual recognition might be possible.

17. Recognizing the similarities in the criteria sets of the nine regional and international criteria and indicators processes, the 2003 Conference identified seven thematic areas of sustainable forest management, which were later noted at the sixteenth session of the FAO Committee on Forestry,[6] (Rome, March 2003). The thematic areas are as follows:

1. Extent of forest resources;
2. Biological diversity;
3. Forest health and vitality;
4. Productive functions of forest resources;
5. Protective functions of forest resources;
6. Socio-economic functions;
7. Legal, policy and institutional framework.

18. The update of the FAO-led global Forest Resources Assessment planned for 2005 will be structured according to the first six of these common thematic areas. The use of the thematic framework for the Assessment was proposed by the Expert Consultation for the Forest Resources Assessment held in Kotka, Finland, in July 2002,[7] was endorsed by the FAO Committee on Forestry in March 2003, and was supported by the meeting of 120 national correspondents for Forest Resources Assessment, held in Rome in November 2003.[8] This change is likely to lead to greater coherence in reporting on the status and trends in the world's forests. National reporting within all three of the processes (Montreal, Ministerial Conference on the Protection of Forests in Europe and ITTO) that have begun collecting criteria and indicators information is already based on these thematic areas, which were derived from the criteria used by these and other processes.

19. The United Nations Forum on Forests, at its first session, recognized criteria and indicators as a useful tool for monitoring progress towards sustainable forest management. The Ad Hoc Expert Group on Approaches and Mechanisms for Monitoring, Assessment and Reporting recommended, for the consideration by the Forum, that the global Forest Resources Assessment update in 2005 and other sources of information from countries and criteria and indicators processes could be used to assess progress towards sustainable forest management globally, thus making additional reporting by countries to the Forum at its fifth session unnecessary (see E/CN.18/2004/2).

20. The use of criteria and indicators at the regional and global levels could be increased by making existing information on forests more accessible and by

harmonizing concepts, terms and definitions related to criteria and indicators. The Collaborative Partnership on Forests, in conjunction with members' efforts to streamline forest-related reporting to international processes, has proposed the development of a common information framework organized according to the seven thematic areas noted in paragraph 17 above. If the framework were developed, it would provide easy access to and help disseminate country information related to forests.[9]

21. The Intergovernmental Panel on Forests called for a common international understanding of concepts, terms and definitions related to criteria and indicators, which would facilitate the assessment of progress towards sustainable forest management at the regional and global levels. This was addressed by the Expert Consultation held in Cebu City, the Philippines, in March 2004.

22. Each regional and international criteria and indicators process has applied its own definitions for criteria and indicators and for key supporting terms. While reaching a common understanding of the former may not be extremely difficult,[10] harmonizing key supporting terms (e.g., forest type) by improving their compatibility, consistency, comparability, linkages and hierarchies is more complex. Two international expert meetings were held in 2002 as a joint Collaborative Partnership on Forests activity on harmonizing definitions of forest-related definitions used in different international instruments.[11] In addition, the United Nations Forum on Forests Intersessional Experts' Meeting on the Role of Planted Forests in Sustainable Forest Management, held in Wellington, New Zealand, from 25 to 27 March 2003, discussed definitions related to planted forests, forest characteristics and forest designation (see E/CN.18/2003/10, annex). These meetings have improved the understanding of different forest-related definitions, but further harmonization is needed to facilitate comparability of data across processes and across international instruments related to forests. That issue is discussed in more detail in a separate document (E/CN.18/ 2004/10), under agenda item 4 (a) (iv) of the fourth session, on monitoring, assessment and reporting, concepts, terminology and definitions.

Ensure consistency and complementarity between the work on biological indicators of the Convention on Biological Diversity and the existing criteria and indicators initiatives

23. All criteria and indicators processes include biological diversity as a criterion of sustainable forest management and have identified related indicators. As consistent with the proposal of IPF, the Conference of the Parties to the Convention on Biological Diversity has recognized the work of the processes of criteria and indicators for sustainable forest management in its work related to the programme of work on forests and to article 7, on identification and monitoring (including indicators), of the Convention. The focus until recently has been on indicators for use at the national and regional levels, but recent developments address global indicators.

24. The Conference of the Parties, in adopting the expanded programme of work on forest biological diversity in 2002 (see decision VI/22) recognizes in paragraph 34 of the decision the existing criteria and indicators for sustainable forest management and agrees that they should be applied where criteria and indicators are needed for the purposes of the expanded work programme, and recognizes the need

for further development and selection of criteria and indicators for the assessment of the status and trends of forest biological diversity at the national and regional levels. In this regard, the Convention on Biological Diversity Subsidiary Body on Scientific, Technical and Technological Advice in its recommendation IX/6 of 2003, recognized that criteria and indicators, developed as tools under the sustainable forest management framework, can also be used to help implement the ecosystem approach.

2. Experiences and lessons learned

25. Many lessons have been learned about the development and use of criteria and indicators. Case studies of countries' experiences were gathered as input to the 2003 Conference on the Contribution of Criteria and Indicators.[12] These case studies, national reports to the United Nations Forum on Forests, and other sources of information provide useful insight into the challenges, constraints and successes experienced by some countries. The following lessons have emerged:

(a) Many countries have developed national-level criteria and indicators to help guide national decision-making on forest policy and management and monitor progress towards sustainable management. The development of the tool has advanced as a result of countries' involvement in one or more of the nine criteria and indicators processes. The development of subnational and forest management unit level indicators have been driven in some cases by certification, and in others by a wish to link national with subnational information;

(b) It is important to have an adequate legal and regulatory basis for sustainable forest management. Some countries have incorporated criteria and indicators into their legislation, whereas others are developing and implementing them within the context of existing legislation;

(c) Countries may need to adapt the national-level indicators developed in regional and international processes to reflect their specific country conditions;

(d) Not all national-level indicators are relevant at subnational levels of application, and priorities attached to them and for monitoring, assessment and reporting, may vary between levels;

(e) National forest assessments and inventories constitute a basic source of information on indicators for use at the national level. However, limitations in the coverage and quality of available data related to forests are a major constraint to the effective implementation of criteria and indicators of sustainable forest management;

(f) As sustainability is a dynamic state, the development of criteria and indicators at the regional and national levels should be a continuous and iterative process in order to respond to changing conditions and values and to new scientific information and technological advances;

(g) Technical and scientific agreement, policy level endorsement, effective regional collaboration supported by international organizations, and wide stakeholder participation are essential for successful implementation of regional and international criteria and indicators processes;

(h) Many of the regional and international criteria and indicators processes initially identified a large number of indicators, but found that collection of data on

all of them was not feasible. Several processes have refined their indicators set so that it is more practical yet still science-based and reflects the environmental, ecological, socio-economic, political and cultural conditions of the countries.

3. Emerging issues

26. Various international bodies and instruments in addition to those discussed in the present report have identified indicators on forests for monitoring and assessment purposes. Many of these instruments relate to sustainable development, and they have identified global indicators for a range of other sectors in addition to forests. These include the Organisation for Economic Cooperation and Development (OECD), the Commission on Sustainable Development, and the United Nations Millennium Development Goals, among others.[13] OECD has three forest-related indicators (harvest/productive capacity; area and volume distribution of forests; forest area management and protection); the Commission on Sustainable Development has two indicators (forest area as a percentage of land area, and wood harvesting intensity); and the Millennium Development Goals include one indicator (proportion of land area covered by forests). Much work has gone into the identification of indicators in these different processes. However, those bodies and instruments have worked independently of one another. There has been limited, if any, interaction and coordination among them. The indicator sets differ from one another, and even the same indicators may be based on different terms and definitions. A coordinated approach among the efforts, and in collaboration with the regional and international criteria and indicators processes, would likely benefit countries providing the data and help to streamline data collection and compilation and increase consistency of data. The benefits of closer interaction between the criteria and indicators processes could be considerable. The processes have a wealth of knowledge, gained through years of experience, to share. Also, the indicators for sustainable forest management have been developed from the ground up and with strong technical input, have political commitment behind them, and together the criteria represent a convergence of opinion on what constitutes sustainable forest management.

27. Various other emerging issues may be drawn to the attention of the United Nations Forum on Forests. These include, among other things, consideration of the use of criteria and indicators for sustainable forest management in related sectors, such as in rangeland management; their application to such issues as illegal logging or ethical concerns related to forest use; or their use in the assessment of the contribution of forests to poverty alleviation. As new issues emerge, new applications for criteria and indicators for sustainable forest management may become possible and bear consideration.

B. Means of implementation

28. Finance, transfer of environmentally sound technologies and capacity-building are all critical to the implementation of criteria and indicators for sustainable forest management. Despite significant progress, a number of constraints persist, in particular in developing countries and countries with economies in transition. They include insufficient financial resources; shortages of trained personnel and weak institutional capacity to collect, store, analyse and disseminate data; and a lack of political commitment for implementing and reporting on sustainable forest

management. In addition, there are concerns that limitations on resource availability may hinder future improvement and refinement of criteria and indicator frameworks.

29. The 2003 Conference concluded that "there is also a need to attract and mobilize domestic and external financing, including from the private sector, and to help ensure more efficient use of existing funding and institutional mechanisms to support the development and implementation of criteria and indicators". Technical and financial assistance for criteria and indicators processes has been forthcoming from donor countries, international and regional organizations, and non-governmental organizations (NGOs). An exhaustive list is not possible, but some examples follow.

30. Several countries, principally those of the Ministerial Conference on the Protection of Forests in Europe and Montreal Processes, have provided financial assistance to further criteria and indicators through projects as well as meetings. For example, Austria, Finland and the United Kingdom have actively supported work in other countries, and Finland and the United States of America provided support to the Intergovernmental Seminar on Criteria and Indicators for Sustainable Forest Management and the 2003 Conference on the Contribution of Criteria and Indicators.

31. Since 1998, the Deutsche Gesellschaft für Technische Zusammenarbeit, the Worldwide Fund for Nature (WWF) and World Conservation Union (IUCN) have been instrumental in supporting countries in Central America to further develop and implement criteria and indicators by maintaining a permanent forum for discussion on the applicability of these tools in protected areas and in the management of planted forests. The Centro Agronómico Tropical de Investigación y Enseñanza has also provided assistance in Latin America for criteria and indicators.

32. International organizations have also provided crucial support to the various processes. These include many members of the Collaborative Partnership on Forests, in particular FAO, ITTO, the Center for International Forestry Research (CIFOR), the United Nations Environment Programme (UNEP), the IUCN and the International Union of Forest Research Organizations (IUFRO).

33. ITTO, in addition to initiating work on criteria and indicators, has developed guidelines for sustainable management of natural tropical forests (1990) and planted tropical forests (1993), for conservation of biological diversity in tropical production forests (1993), for fire management (1997) and for rehabilitation of degraded tropical forests (2002). ITTO has carried out a series of regional and national training workshops on criteria and indicators throughout the tropics. It has also financed projects in Brazil, Cameroon, China, Colombia, Congo, Gabon, India, Malaysia, Myanmar and the Philippines, as well as with the African Timber Organization, to assist in the development of national-level criteria and indicators and to train local stakeholders. FAO and UNEP supported the development of the Dry-Zone Africa process, the Near East process and the Dry-Forest Asia Initiative, both in the initial development of the criteria and indicators set and in subsequent validation of the indicators. FAO and ITTO have collaborated in actively supporting many regional and international meetings on criteria and indicators. Criteria and indicators for the tropical forests in Africa were developed under the auspices of African Timber Organization, with technical assistance of CIFOR, and, later with the help of ITTO, they were harmonized with the ITTO criteria and indicators. CIFOR, in its support of the development and assessment of criteria and indicators

in tropical countries, has focused mainly on the forest management unit level. It has done pioneering work in testing various criteria and indicators sets under local conditions (including in Cameroon, the Central African Republic, Côte d'Ivoire, Gabon and Ghana), and in 1999 published a comprehensive toolkit for developing them. CIFOR has also supported in-country training activities. IUFRO's Special Programme for Developing Countries, together with the Tropical Agricultural Center for Research and Education (CATIE) and CIFOR and in technical cooperation with FAO, convened an Expert Meeting on Capacity-Building for Forest Scientists in Latin America in Criteria and Indicators, Auditing of Sustainable Forest Management and Forest Certification, which was held in Costa Rica in May 2003.

C. Common items

34. This section addresses the common items of the United Nations Forum on Forests related to criteria and indicators that have not been addressed in preceding sections.

1. Promoting public participation

35. The Intergovernmental Panel on Forests agreed that criteria and indicators should be formulated and revised, as needed, through a transparent process involving all interested parties. Where broad stakeholder participation has taken place, it has contributed to the acceptance and implementation of criteria and indicators.

36. A number of countries have reported to the United Nations Forum on Forests that representatives from a wide range of governmental and non-governmental organizations have taken part in the development of national criteria and indicators. These reports, case studies collected for the 2003 Conference on the Contribution of Criteria and Indicators and other sources of information, document lessons that have emerged from country experiences.[14]

37. Countries have used a wide variety of approaches to engage or sensitize stakeholders. The most common approaches used include conferences, meetings, the development of networks and committees, outreach through the Internet and media, soliciting comments on key documents, and conducting research with the stakeholders. Stakeholders involved in the development and implementation of criteria and indicators are various government agencies, forest owners, environmental NGOs, academics, aboriginal communities and organizations, forest industry representatives and community representatives. In countries where forest management unit-level criteria and indicators were adopted, the key stakeholders involved tended to be forest owners, trade unions, local communities and forest products companies.

38. Experience has shown that it is more effective if all major stakeholders are involved through more detailed consultations than just national workshops. The effort has been found to be more successful if local representatives are involved. It has also been recognized that the process should promote trust and cooperation from stakeholders and increase the transparency and credibility of the scheme. A weakness that has been identified is that in many countries criteria and indicators

have been applied only on public lands, and engaging private land owners in criteria and indicators implementation has been weak.

2. Trade

39. All nine regional and international processes have two criteria related to trade: productive functions of forests; and socio-economic functions of forests. Related indicators include: quantity and volume of wood and non-wood forest products traded; imports and exports of forest products; existence and extent to which the economic and policy frameworks and financial instruments support non-discriminatory trade policies for forest products; and the flow of capital in and out of the forest sector in response to market signals.

40. A second, broader link of criteria and indicators to trade is through forest certification. Criteria and indicators and certification differ in that the former is a forest management tool, while the latter is a market-driven assessment process, but they have a common objective — to promote sustainable forest management — and they can be considered to be complementary. Criteria and indicators can provide a scientifically sound and politically acceptable basis for developing forest auditing and certification standards. Several forest certification standards have been based on criteria and indicators sets. For example, the Pan-European Operational Level Guidelines for Sustainable Forest Management, designed to facilitate countries' implementation of criteria and indicators at the subnational level, have been used as a reference for the development of voluntary national certification standards for endorsement by the Programme for the Endorsement of Forest Certification Schemes (PEFC).[15] Some countries (e.g., Malaysia, Canada) have developed certification systems based on their criteria and indicators for sustainable forest management. However, this is not to say that certification, as a market tool, can take the role of a national criteria and indicators framework since, in many countries, much of the forest is unlikely to ever be certified and certification systems differ in rigour and applicability. Stronger linkages and clarification between the two tools may be useful.

3. Enabling environment

41. At the national level, the importance of strong capacity in the forestry department and political and legislative support to implementation of criteria and indicators have already been mentioned. In addition, national coordination plays a decisive role in making implementation feasible. Good internal structures to allow for cross-sectoral communication and information sharing are critical. In many countries, participation in criteria and indicators development and implementation has been largely limited to the forest sector, and coordination among government agencies that collect data is weak despite its importance for improving implementation.

42. High-level political commitment and involvement at the ministerial level has proven to be instrumental in the development of criteria and indicators processes. In the Ministerial Conference on the Protection of Forests in Europe process, strong political commitment, ministerial meetings at regular intervals and effective mechanisms in place for follow-up work have contributed to the rapid progress of the processes. High-level regional political bodies have fostered the establishment and development of other criteria and indicators processes as well. For example, the

African Timber Organization Ministerial Conference in 2002 endorsed the harmonized African Timber Organization/ITTO principles, criteria and indicators. The Tarapoto process was established and is followed by the Organization for the Amazon Cooperation Treaty. The Lepaterique process has been linked to the implementation of the Central American Forest Convention, which defines a regional policy for sustainable forest management and forest protection.

43. Engaging regional bodies at a policy or technical level has also been found to be an effective way of furthering the development and use of criteria and indicators. For example, the subregional groupings — the Permanent Interstate Committee for Drought Control in the Sahel, the Intergovernmental Authority on Development and the Southern African Development Community — endorse and closely follow the Dry-Zone Africa Process. Similarly, the Near East Forestry Commission has endorsed and follows the progress of the Near East process.

44. At the international level, recognition by the IPF/IFF/United Nations Forum on Forests process of the value of criteria and indicators of sustainable forest management has facilitated the development of criteria and indicators at the national, regional and international levels. International meetings such as the Intergovernmental Seminar on Criteria and Indicators, the FAO/ITTO/UNEP/CIFOR/IUFRO Expert Meeting on Criteria and Indicators for Sustainable Forest Management, held in Rome in November 2000, the 2003 International Conference on the Contribution of Criteria and Indicators, the FAO/ITTO Expert Consultation held in the Philippines in March 2004, and the country-led initiative on monitoring, assessment and reporting that took place in Yokohama, Japan, in November 2001 (see E/CN.18/2002/12, annex), and Viterbo, Italy, in 2003 (see E/CN.18/2003/9 and Corr.1, annex), have also helped to enhance international support for developing and implementing criteria and indicators.

IV. Conclusions

45. **The development of criteria and indicators has been one of the main achievements in the forest sector since the United Nations Conference on Environment and Development. It is a tool that continues to attract interest and further application worldwide. Several international conferences, expert meetings, and country-led initiatives in support of the United Nations Forum on Forests have contributed to their development and application. The IPF/IFF proposals for action related to criteria and indicators have been implemented to a great extent through work by countries, the nine regional and international criteria and indicators processes, FAO, ITTO and other members and organizations of the Collaborative Partnership on Forests.**

46. **Countries increasingly are using criteria and indicators as a framework for national forest policy formulation and strategic planning, monitoring of sustainable forest management and national forest programmes, and developing certification schemes. Criteria and indicators have helped to increase the understanding of what sustainable forest management means; refine forest management objectives and practices; identify deficiencies in forest policies, institutional capacity and information; and catalyse cross-sectoral coordination and stakeholder participation in forest planning and decision-making. At the international level, they have also raised the profile of**

forests; enhanced collaboration among countries; and contributed to efforts to streamline international reporting on forests.

47. Although several countries make use of criteria and indicators as a framework for national forest programme processes, there is potential to strengthen this linkage in many other countries.

48. In many countries, more applied research and training on the development, implementation and assessment of criteria and indicators, including at the subnational or forest management unit level, are needed. Although substantial dialogue has taken place on implementing national criteria and indicators, discussions could be expanded to include the subnational and forest management unit level.

49. The development and implementation of criteria and indicators in some countries involve the participation of a range of stakeholders. Efforts are needed elsewhere to involve stakeholders, and to foster an open and transparent participatory process. In most countries, participation of disciplines outside the forest sector needs to be strengthened.

50. A high level of political commitment to criteria and indicators exists in many parts of the world. Some processes, namely the Ministerial Conference on the Protection of Forests in Europe, Montreal and ITTO processes, have made great strides towards monitoring of and reporting on progress towards sustainable forest management. Processes that are in the early stages of implementation need support from the international community.

51. Increased collaboration and coordination among the processes would facilitate learning and could further implementation and would improve communication. Financing is needed to organize regional and national meetings, publish and distribute documents and improve national and technical capacities. There is also a widely recognized need to expand activities to all countries, including those that do not participate in any of the regional and international processes.

52. Data collected on indicators could be used to fulfil some of the international reporting requirements and help to reduce the reporting burden on countries.

53. The Collaborative Partnership on Forests's proposed common information framework for forest-related reporting, organized according to the common thematic areas of sustainable forest management, could facilitate wider use of existing information by countries and by secretariats of international processes.

54. Over the past years, linkages between criteria and indicators and national and global forest resources assessments have been strengthened. This has contributed to improved assessment and monitoring, wider use of data from national forest inventories, and streamlined data collection and reporting.

55. Progress is being made in increasing the comparability and compatibility of the various regional and international criteria and indicators processes. This has required a concerted effort. Further progress will depend on sustained political, technical and financial support.

56. **At the international level, political commitment to sustainable forest management can be improved through a focused dialogue within and among the various criteria and indicators processes and through increased collaboration between the process of criteria and indicators for sustainable forest management and other international instruments (e.g., related to sustainable development) using indicators. Criteria and indicators, as a framework for sustainable forest management, can help orient those discussions, and high-level political awareness of the usefulness of criteria and indicators can help to garner support for their further development and use.**

V. Points for discussion

57. Considering the significant progress countries have made in the development and implementation of criteria and indicators, stimulated in large part by the nine regional and international processes, reinforced through the Intergovernmental Panel on Forests, Intergovernmental Forum on Forests and the United Nations Forum on Forests, and supported by members of the Collaborative Partnership on Forests, notably FAO, ITTO, CIFOR and UNEP; and taking into consideration the recommendations from recent international meetings on criteria and indicators, at its fourth session the United Nations Forum on Forests may wish to consider the following:

(a) Adopt the following common thematic elements of sustainable forest management:

1. Extent of forest resources;
2. Biological diversity;
3. Forest health and vitality;
4. Productive functions of forest resources;
5. Protective functions of forest resources;
6. Socio-economic functions;
7. Legal, policy and institutional framework;

(b) Urge Member States to consider the use of criteria and indicators to help develop and monitor national forest programmes and related policy processes, national forest assessments, certification schemes, and national and international reporting on sustainable forest management;

(c) Call on participating countries and secretariats of criteria and indicators processes to continue to strengthen criteria and indicators processes, particularly those that are in the early stages of implementation;

(d) Urge Member States, FAO and participating organizations to strengthen support to the global Forest Resources Assessment and enhance its linkages to regional and international criteria and indicators processes in order to improve the information base for monitoring, assessment and reporting on sustainable forest management;

(e) Invite the members of the Collaborative Partnership on Forests to continue to streamline forest-related reporting, including by making information

more accessible through the development of an information framework that could be based on the common thematic elements of sustainable forest management;

(f) Invite the members of the Collaborative Partnership on Forests to encourage their respective governing bodies, when developing monitoring mechanisms and indicator sets, to adopt the use of criteria and indicators for sustainable forest management as the basis for forest-related monitoring, assessment and reporting;

(g) Encourage FAO, ITTO and other members of the Collaborative Partnership on Forests to strengthen their support to criteria and indicators processes and foster the global exchange of information, know-how and experiences on implementation;

(h) Invite the National Forest Programme Facility and the Programme on Forests to promote criteria and indicators when helping countries to develop and implement national forest programmes;

(i) Encourage the donor community, criteria and indicators processes, FAO, ITTO, the Global Environment Facility and other relevant organizations and mechanisms to assist developing countries and countries with economies in transition to implement criteria and indicators, including by providing financial support, technology and know-how, and to assist countries that would like to join a process, recognizing that providing such support would be facilitated by countries identifying criteria and indicators as a priority in their official development plans and poverty reduction strategies;

(j) Urge criteria and indicator processes and their member countries to strengthen cooperation, including South-South and North-South cooperation, by sharing experiences and know-how, for example, through joint meetings, workshops, ministerial conferences and e-mail networks;

(k) Encourage national and international institutions to carry out research on criteria and indicators that are difficult to assess, including biological diversity, non-wood forest products, non-market values, soil and water conservation, carbon sequestration and social and cultural aspects and values. Encourage IUFRO centres of the Consultative Group on International Agricultural Research, the Conference of States Parties to the Convention on Biological Diversity, secretariat of the United Nations Convention to Combat Desertification, and the Conference of the Parties to the United Nations Framework Convention on Climate Change to facilitate related research, according to their mandates.

Notes

[1] This was included in the multi-year programme of work of the United Nations Forum on Forests for 2001-2005 (see *Official Records of the Economic and Social Council, 2001, Supplement No. 22* (E/2001/42/Rev.1-E/CN.18/2001/3/Rev.1), part two, sect. B, resolution 1/1, para. 4 (c)).

[2] Common items for each session of the UNFF are: multi-stakeholder dialogue; enhanced cooperation and policy and programme coordination, inter alia, with the Collaborative Partnership on Forests; country experiences and lessons learned; emerging issues relevant to country implementation; intersessional work; monitoring, assessment, and reporting; implementation of the Plan of Action; promoting public participation; national forest programmes; trade; and enabling environment.

[3] For volume 1 of the report of the 2003 Conference, see: www.fao.org/DOCREP/005/Y8694E/Y8694E00.HTM; for volume 2, see: www.fao.org/DOCREP/005/J0077E/J0077E00.HTM.

[4] For the report see: http://www.un.org/esa/forests.

[5] International criteria and indicators processes refer to the Montreal process and ITTO, which have eco-regional coverage. The other processes have geo-regional coverage.

[6] For the report, see: www.fao.org/forestry/cofo.

[7] Global Forest Resources Assessments — Linking national and international efforts. Proceedings of Expert Consultation, 1-5 July 2002, Kotka, Finland. For the report see: www.fao.org/forestry/fra-kotka4.

[8] Training of National Correspondents on Assessing and Monitoring of Forest Land Use and Changes, Rome, 17-21 November 2003, Proceedings. Forest Resources Assessment Working Paper 80. See: www.fao.org/forestry/fra.

[9] For more information on the work of the Task Force, see the Collaborative Partnership on Forests web site: www.fao.org.forestry/cpf-mar.

[10] For an analysis, Simula, M. "Criteria and Indicators for Sustainable Forest Management: Overview of Progress and Issues" in: International Conference on the Contribution of Criteria and Indicators for Sustainable Forest Management: The Way Forward, volume 2 (see: www.fao.org/DOCREP/005/J0077E/J077E00.HTM).

[11] For the reports of the first and second expert meetings on harmonizing forest-related definitions for use by various stakeholders, held in Rome, 22-25 January 2002, and 11-13 September 2002, respectively, see: www.fao.org/forestry/climate.

[12] See Prabhu, R., et al., "Strengthening institutional capacity and stakeholder partnerships for implementing criteria and indicators and facilitating the exchange of information between all stakeholders" in: International Conference on the Contribution of Criteria and Indicators for Sustainable Forest Management, volume 2 (see note 3).

[13] Rametsteiner, E. and D. Wijewardana. "Key issues in the future development of international initiatives on forest-related criteria and indicators for sustainable development" in: International Conference on the Contribution of Criteria and Indicators for Sustainable Forest Management, volume 2 (see note 3).

[14] A useful source of information is Prabhu, et al., op.cit.

[15] Formerly known as Pan-European Forest Certification.